U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET E15EA	TCDS NUMBER E15EA REVISION: 7 DATE: May 13, 2010 PRATT & WHITNEY AIRCRAFT MODELS: (T73-P-1) JFTD12A-4A (T73-P-700) JFTD12A-5A

Engines of models described herein conforming with this data sheet (which is a part of Type Certificate Number E15EA) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations, provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

TYPE CERTIFICATE (TC) HOLDER: Pratt & Whitney Aircraft
Division of United Aircraft Corporation
East Hartford, Connecticut 06108

I. MODELS	JFTD12A-4A (T73-P-1)	JFTD12A-5A (T73-P-700)
TYPE Free Turbine Drive	Nine stage axial compressor and eight can-annular combustion chambers and two stage gas generator turbine plus two stage free turbine	
RATINGS At nominal free turbine operating speed of 9000 rpm		
Maximum continuous at sea level, hp	4000	4430
Takeoff at sea level, (5 min.) hp.	4500	4800
30 minute OEI rating at sea level, hp.	4500	4800
Fuel control	Hamilton Standard JFC56-4	JFC56-6
Fuel pump	Goodrich Corp 50466A2	- -
Fuel	See NOTE 11	- -
Oil (See NOTE 12)	Synthetic type conforming with PWA Spec 521 as revised	- -
Principal dimensions, in.		
Length (maximum including nose cone)	107.0	- -
Diameter (maximum)	30.0	- -
Radial projection (maximum)	22.3	- -
Weight (dry), lb. (includes basic engine with all essential accessories but excluding oil tank, fuel-oil cooler, fuel heater system, inlet bullet nose cone, starter, exhaust duct extension and power source for the ignition system.)	920 (966 for T73-P-1)	935 (981 for T73-P-700)

*

LEGEND: "- -" INDICATES "SAME AS PRECEDING MODEL"
"---" NOT APPLICABLE
NOTE: ALL PAGES ARE REFORMATTED. SIGNIFICANT CHANGES IF ANY, ARE BLACK-LINED IN THE LEFT MARGIN.

I. MODELS	JFTD12A-4A (T73-P-1)	JFTD12A-5A (T73-P-700)
Center of gravity, in.		
Aft of rear flange of diffuser case	16.3	16.1
Below engine center line	1.3	- -
Ignition	Two General Laboratories Associates exciters Model 40367 or BF Goodrich Aerospace Simmonds Precision exciters Model 43140, with two spark igniters, Champion FHE 151; or General Laboratories Associates exciters Model 42145 and 42194 or BF Goodrich Aerospace Simmonds Precision exciters Model 42145 and 43141, with two spark igniters, Champion AA-335	- -
NOTES	1 through 15	- -

CERTIFICATION BASIS Federal Aviation Regulations (FAR) Part 33, effective February 1, 1965, including Amendments 33-1 through 33-2.

TYPE CERTIFICATE E15EA

MODELS	APPLICATION DATE	ISSUED/AMENDED
JFTD12A-4A	MAR 30, 1966	FEB 14, 1967
T73-P-1	DEC 15, 1967	JAN 19, 1968
JFTD12A-5A	OCT 30, 1968	JAN 29, 1970
T73-P-700	NOV 20, 1970	NOV 24, 1970

PRODUCTION BASIS Production Certificate Number 2

NOTES

NOTE 1. Maximum permissible engine operating speeds (rpm) for the engine rotors are as follows:

	Free Turbine	Gas Generator
Takeoff	9,500	16,700
30 Minute OEI Rating	9,500	16,700
Maximum Continuous	9,500	16,700
Transient (30 seconds)	9,600	---

NOTE 2. Maximum permissible temperatures are as follows:

Free turbine inlet gas temperatures:

	JFTD12A-4A(T73-P-1)	JFTD12A-5A(T73-P-700)
Takeoff	688°C (1270°F)	720°C (1328°F)
30 Minute OEI Rating	688°C (1270°F)	720°C (1328°F)
Maximum Continuous	655°C (1211°F)	675°C (1247°F)
Maximum for Acceleration	688°C (1270°F)	720°C (1328°F)
Starting	525°C (977°F)	- - - -
Oil Inlet	121°C (250°F)	- - - -

External engine components, max. temperature (limiting temperatures of specific components are as specified in the engine installation and operating manual.)

NOTE 3. Fuel and oil pressure limits are as follows:

Fuel pressure: At inlet to engine system pump, 7.5 p.s.i. above absolute fuel vapor pressure or 1.5 p.s.i. below fuel tank pressure, whichever is higher, with a maximum of 50 p.s.i. above absolute ambient atmosphere pressure.

Oil pressure: At ground idle - 20 p.s.i. minimum
Operating range - 45 to 55 p.s.i.

NOTE 4. Maximum permissible air bleed extraction is as follows:

Percent of primary engine airflow:
Idle to maximum continuous - 2.0%
Maximum continuous to takeoff - 2.0%

NOTE 5. The ratings are based on static test stand operation under the following conditions:

Compressor inlet air at 59^{o}F and 29.92 in. Hg.
P&WA bellmouth on air inlet
No aircraft accessory loads or air extraction
No anti-icing airflow
Free turbine inlet gas temperature limits and engine rotor speed limits not exceeded.

NOTE 6. The following accessory drive provisions are incorporated:

DRIVE	ROTATION*	SPEED RATIO TO TURBINE SHAFT	TORQUE (in. - lb.) CONTINUOUS	TORQUE (in. - lb.) STATIC	OVERHANG (in-lb)
Tachometer (Gas Generator)	CC	.264:1	7	50	___
Tachometer (Free Turbine)	C	.464:1	7	50	___
Starter-Generator **	C	.435:1	500	1260	500
Fluid Power Pump	C	.263:1	600	2700	350
	* C - Clockwise, CC - Counterclockwise				
	** Above limits apply only to generator operation. Maximum continuous starter torque - 1260 in.-lb. Engine starter drive sheer section capable of withstanding a static torque up to 2520 in.-lb.				

NOTE 7. Additional equipment for JFTD12A-4A and -5A models: included as standard equipment on T73-P-1 and T73-P-700.

	Pounds added weight
Oil Tank	14.0
Fuel-Oil Cooler	15.0
Fuel Heater	14.0
Inlet Bullet Nose Cone	3.0

NOTE 8. Power setting, power checks, and control of engine output in all operations is to be based upon P&WA engine charts referring to free turbine inlet section gas pressures. Pressure probes are included in the engine assembly for this reason.

NOTE 9. This engine meets FAA requirements for operation in icing conditions, for adequate turbine disk integrity and rotor blade containment and does not require external armoring.

NOTE 10. The maximum continuous static power at sea level at 17^{o}F (JFTD12A-4A, T73-P-1) and 38^{o}F (JFTD12A-5A, T73-P-700) ambient temperature and below is 4500 hp (JFTD12A-4A, T73-P-1), and 4800 hp (JFTD12A-5A, T73-P-700) respectively. The engine installation and operating manual should be consulted for variation in power between standard and 17^{o}F (JFTD12A-4A, T73-P-1), and 38^{o}F (JFTD12A-5A, T73-P-700).

NOTE 11. JP-1, JP-4 and JP-5 fuels conforming to P&WA Specification No. 522 as revised may be used separately or mixed in any proportions without adversely affecting the engine operation or power output. No fuel control adjustment is required when switching fuel types.

Phillips PFA-55MB anti-icing additive at the use concentration not in excess of 0.15% by volume is approved for use in fuels conforming to P&WA Specification No. 522 as revised.

For the T73-P-1 and T73-P-700 fuel conforming to MIL-I-5161 E Grade I or II may be used.

NOTE 12. P&WA Turbojet Engine Service bulletin No. 238 lists approved brand oils.

For the T73-P-1 and T73-P-700, in addition to the oils listed in PWA Turbojet Engine Service Bulletin No. 238, oil conforming to MIL-I-23699A or MIL-I-7808G may be used.

NOTE 13. The military T73-P-1 and T73-P-700 engines are identical to the JFTD12A-4A and JFTD12A-5A respectively and are eligible for use in certificated aircraft, however, when used civilly the engine nameplate should be revised to include the corresponding civil model designation and Type Certificate Number.

NOTE 14. Certain engine parts are life limited. These limits are listed in the FAA - Approved Pratt & Whitney Aircraft JT12A and JFTD12A Overhaul Manual, Part No. 435108, Table of Limits Section.

NOTE 15. The following models incorporate the following general characteristics:

JFTD12A Model	Characteristics
-4A	Basic Model
-5A	Same as -4A except for increased takeoff and maximum continuous ratings with the incorporation of improved engine parts.

----END----